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BA/EN
WR ND
Mail Stop 60190

AUG 28 1989

Memorandum

To: ARD, Refuges and Wildlife (60130)
Attention: Dale Henry

From: Regional Engineer, Region 6

Subject: 1988-1989 Annual Water Use Report/Management Plan

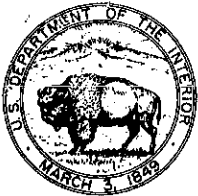
The subject report for Tewaukon National Wildlife Refuge has been reviewed and approved as submitted.

Please extend our thanks to Refuge personnel for the timely submission of this report. Also, please accept our apologies for this delayed response. The report was filed after being read and approved in April.

E/W WILLIAM A. GORDY

bcc: EN Rdg File
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EN:LCo:8-28-89

R660



United States Department of the Interior

FISH AND WILDLIFE SERVICE
TEWAUKON NATIONAL WILDLIFE REFUGE
RR #1, BOX 75
CAYUGA, NORTH DAKOTA 58013



Dale
R Hig

MEMORANDUM

February 6, 1989

To: R&W, Associate Manager ND (60130)
Denver, CO

From: Refuge Manager, Tewaukon NWR Complex (62660)
Cayuga, ND

Subject: 1989 Annual Water Management Plan and 1988 Use Report

1. List of Water Rights

Tewaukon NWR #1261: 7,139 acre-feet yearly (4,852 storage and 2,287 seasonal use) for Lake Tewaukon (Pool 1) and Pools 2, 3, 4, 11 and 12 dated December 1964, diversion by dams across the Wild Rice River.

Declaration of Filing (#57) dated September 1, 1934 claimed 397 acre-feet storage and 312 acre-feet seasonal use for Clouds Lake (Pool 8) now calling Hepi Lake. Listed on the same sheet as Lake Tewaukon/White Lake, as per RO(EN) Marshall Fox's 11-14-83 memo.

Tewaukon NWR #1262: 1,130 acre-feet yearly (635 acre-feet storage and 495 acre-feet seasonal use) for Sprague Lake, dated December 1964, diversion from an unnamed creek in the SE1/4NW1/4, Section 2.

Tewaukon NWR #1263: 686 acre-feet yearly for Mann Lake (236 acre-feet) and Horseshoe Slough (450 acre-feet) dated December 1964, diversion from the Wild Rice River.

Tewaukon NWR #3816 Nickeson Tract: 571 acre-feet (474 acre-feet storage, 97 acre-feet annual use) for the Nickeson Bottoms, a tract jointly owned by the ND Game and Fish Department, US Bureau of Reclamation and USFWS. Diversion is from the Wild Rice River, W 1/2 Section 27, T. 130 LTL N., R. 54 W. Priority date August 15, 1985.

2. Water Use - 1988

The Wild Rice River and LaBelle Creek flowed well below average this year. Frenier Dam Outlet and Sprague Lake Creek did not flow this year.

Natural wetlands received virtually no inflows and were only about 20% full after spring runoff. Even type IV wetlands were dry by June 1.

Pool 1 (Lake Tewaukon): The lake was frozen at 1147.20 (1148.0 is full pool and virtually never is attained in the fall after a summer of evaporation loss). No inflows were received, and the lake peaked at 1146.95 on April 28. On June 30 the lake was at 1146.23 when stoplogs were pulled to dewater Marquette Slough so dam safety repairs could be made. Marquette Slough was reflooded by removing the coffer-dam on November 11. Lake Tewaukon froze over completely by mid-November (except for one hole kept open by waterfowl and one kept open by the aerator) at 1144.96 MSL.

Parker Bay (east end of Lake Tewaukon): All inflow from LaBelle Creek was diverted into Parker's Bay to raise the water level to benefit waterfowl. The pool was dry by mid-August.

Pool 2 (Cutler Marsh): No inflow was received, and Pool 2 went from 1147.20 MSL to dry by mid-summer.

Pool 2A: Pool 2A had a spring depth of 1.5 feet, but was dry by June 30.

Pool 3 (Maka Pool): Pool 3 was 3.2 feet below operating level of 1156.2 after spring thaw. On April 12 all available water from Pool 4 was added to enhance our nesting islands in Pool 3. At freeze-up the only water remaining was in the river channel and the deep end of the pool.

Pool 3A: This pool was dry.

Pool 4 (River Pool): All water from Pool 4 was dumped into Pool 3 in early April. The pool was dry by June 30.

Pools 5, 5A, 6, 7, 7A: These pools were dry.

Pool 8 (Hepi Lake): This pool was at about 2 feet deep going into the nesting season, and was dry by end of July.

Pool 10: This pool was dry.

Pool 11 (West White Lake): To create more favorable waterfowl habitat, 200 acre feet of water was pumped from Pool 12.

Pool 12 (East White Lake): Pool 12 was pumped down to aid in the establishment of cattails.

Pool 13 (Mann Lake): Pool 13 was kept in drawdown condition to establish cattails and/or bulrush stands.

Pool 14 (Sprague Lake): The lake was 5.9 feet deep on April 1 and then slowly evaporated to about 3.5 feet deep at freeze up.

Pool 16 (Horseshoe Slough): No water was available for this unit. All wetlands in this unit were dry by the end of August.

3. Impoundment Data

Please see the attached chart for capacities for each pool at various elevations. No formal inflow/outflow records were maintained. Please see Section #2 above for elevation changes for the various pools.

4. 1989 Plans

If 1989 is a dry year, we plan to hold all the water we can to maximize waterfowl production in each pool. If we get enough runoff we will attempt to manage the pools as follows:

Pool 1 (Lake Tewaukon): Fill to about 1150.0 MSL to allow flow into adjacent dry wetlands on the Krause WPA, Tewaukon WMA, and the Refuge. After these wetlands have received adequate water, the lake will be lowered to the maximum management level of 1148.0 MSL for sport fishery habitat.

Parker Bay (east end of Lake Tewaukon): Flood to a maximum of four feet as early as possible in the spring before duck nesting occurs. Maintain a 2-1/2 - 3 foot depth for waterfowl production by adding water as needed in late spring and summer.

Pool 2 (Cutler Marsh): Fill the pool to 1151.5 MSL to flood dense cattails in the west end without killing vegetation in the lower end. When the water temperatures are correct, small amounts of water will be released in June-August to help local sportsmen net carp.

Pool 3 (Maka Pool): Fill full to about 1156.2 and stabilize as quickly as possible before over-water duck nesting. If needed, supply water to Pools 2A and 3A. Supply water to Nickeson Bottoms as described in the next section. Hold water at maximum depth to slow cattail invasion. If DU funding for the interior dike becomes available the pool will be drawn down in the fall to allow dike construction.

Nickeson Bottoms: Flood to a depth of approximately 4 feet as quickly as possible to kill cattails but still minimize carp invasion. Maintain this depth to continue cattail control and encourage establishment of a muskrat population which will further aid in cattail control and whose lodges will provide waterfowl nesting and loafing sites.

Pool 4 (River Pool): Refill to 1155.9 to retard cattail invasion and maintain muskrat populations.

Pools 2A, 3A, 5, 5A, 6, 7, 7A: If possible fill to maximum depth to flood cattails. If there is insufficient water, drawdown Pool 7 and add as much water as is available to Pools 5, 5A, and 6. Water from Pool 3 can be used to fill Pools 2A and 3A.

Pool 8 (Hepi Lake): Initially 5-6 feet of water may be needed to supply Pools 7A, 7, 6, 5A, 5, 3A, and 2A downstream. Draw the pool down to 4 feet as soon as possible to maintain cattail and bulrush stands.

Pool 9: If possible keep water out of this pool and allow it to dry up. Drying will allow some cattails to reestablish.

Pool 10: Allow this pool to fill naturally or open the supply ditch control and flood to a maximum of 2-1/2 feet. This wetland should be maintained at this level; over-filling would probably flood out the excellent stand of bulrush. It should be allowed to go dry by late August to maintain its highest use as a semi-permanent wetland.

Pool 11 (West White Lake): Maintain depth at 4 - 4-1/2 feet to slow cattail invasion. If necessary pump water from Pool 12 into this pool.

Pool 12 (East White Lake): Add no water to this pool. Allow gradual drying to reestablish cattails. If necessary pump water into Pool 11.

Pool 13 (Mann Lake): Add 2-3 feet of water to this pool; which would enhance newly established cattails and bulrush stands.

Pool 14 (Sprague Lake): Fill to maximum pool, about 8-1/2 feet for sport fishery.

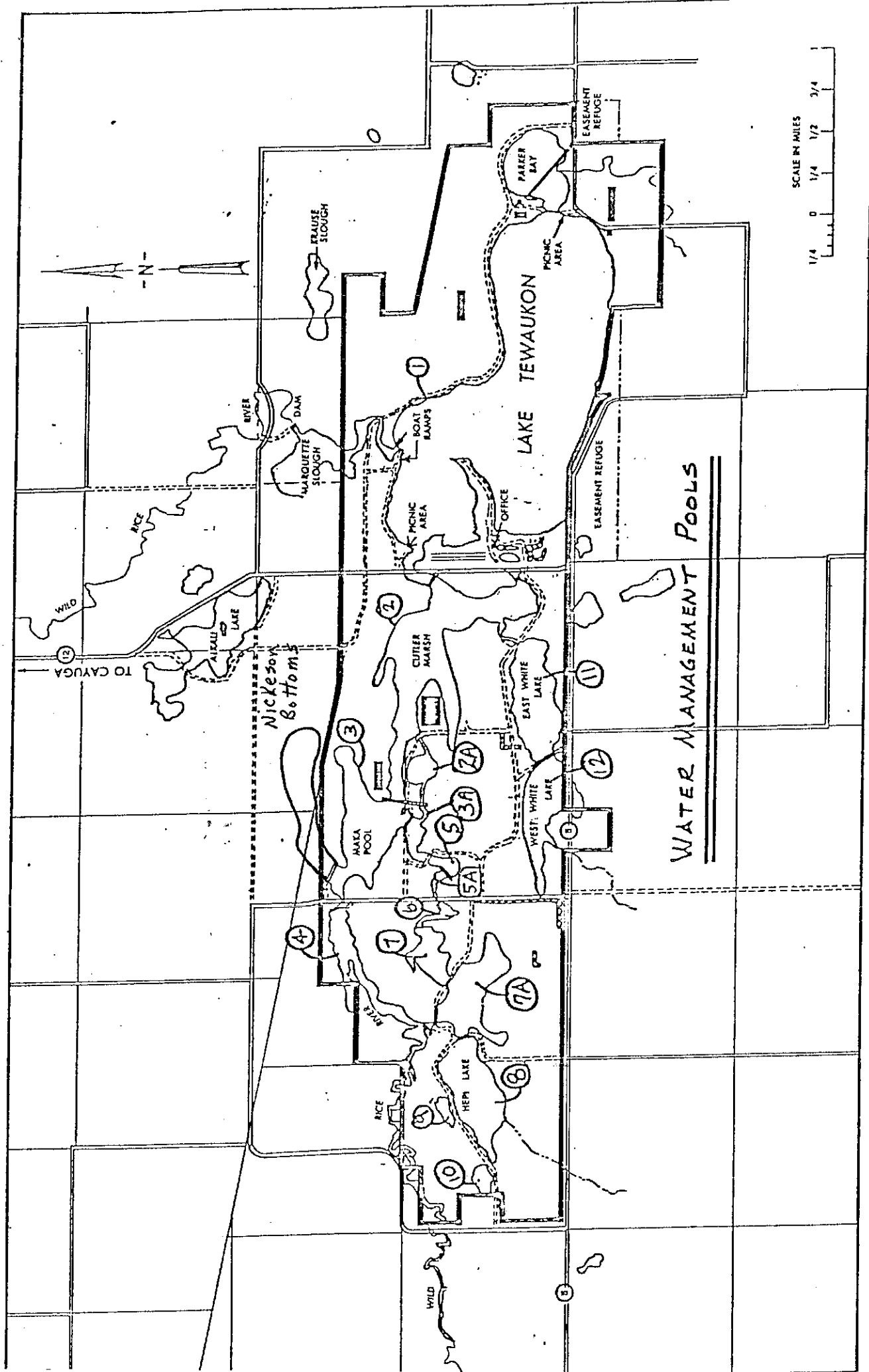
Pool 16 (Horseshoe Slough): Gravity flow water from the Wild Rice River to fill all pools. Some pumping may be necessary to top these pools off. Pool A should attain the level of 1207.5 MSL and all others about 1206 MSL.

5. Location Map

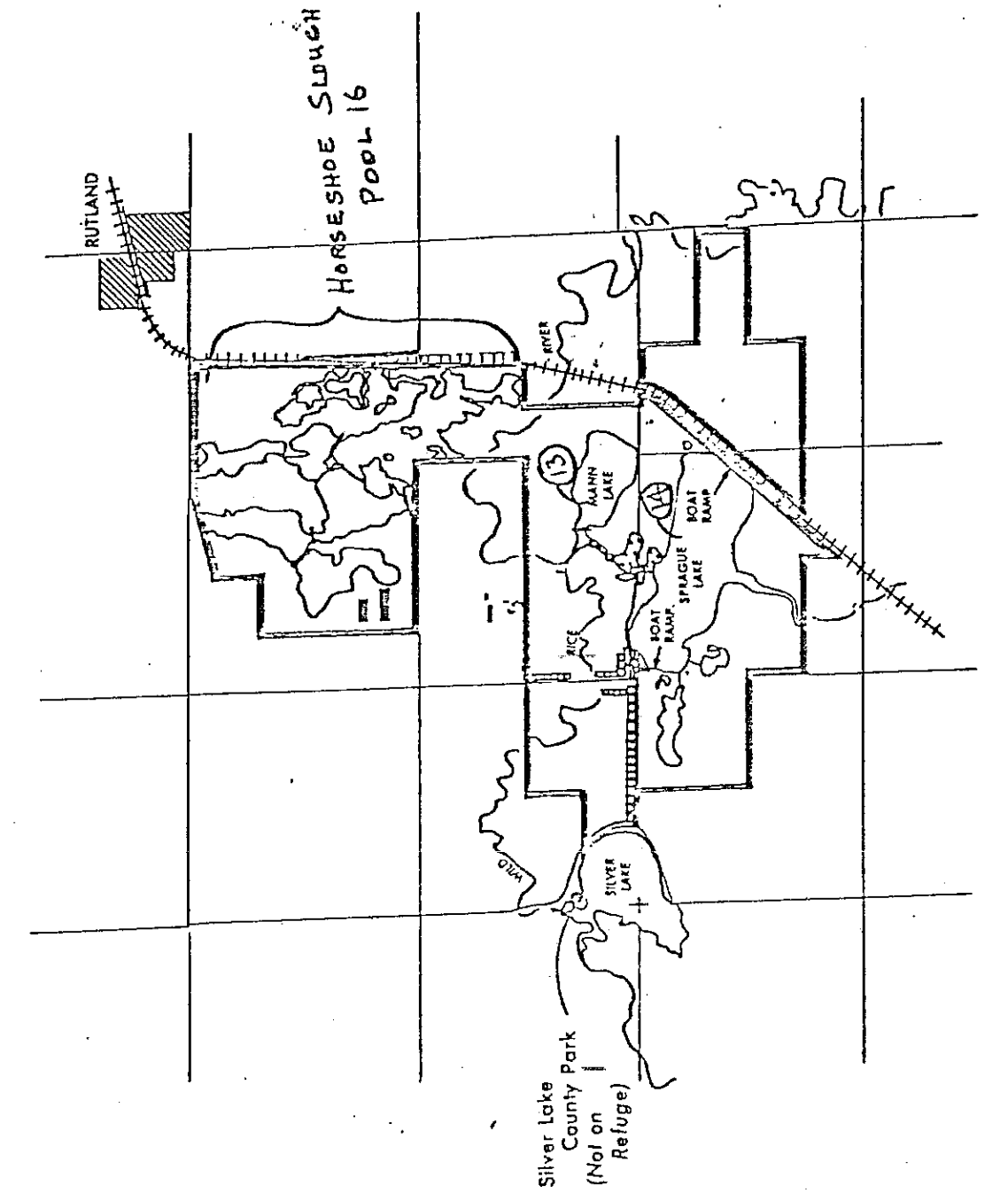
Please see Section #2 for the revised Refuge Map on which all management pools are marked.

Fred G. Hese

TEWAUKON NWR



SPRAGUE LAKE UNIT



TEWAUKON NATIONAL WILDLIFE REFUGE
Pools, Elevations and Acres

<u>POOL</u>	<u>ELEVATION</u>	<u>ACRES</u>
Pool 1 - Tewaukon	1149	1015
Parker's Bay	1149	95
Pool 2 - Cutler's Marsh	1152	246
Pool 2A		30
Pool 3 - Maka Pool	1156	125
Pool 3A		18
Pool 4 - River Pool	1159	108
Pool 5	1160	6
Pool 5A		5
Pool 6	1165	6
Pool 7	1178	21
Pool 7A		106
Pool 8 - Hepi Lake	1179	106
Pool 9	1167	10
Pool 10	1173	5.5
Pool 11 - W. White Lake	1151	80
Pool 12 - E. White Lake	1147	103
Pool 13 - Mann Lake	1207	57
Pool 14 - Sprague Lake	1209	186
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Pool 16 - Horseshoe Slough		244
Pool 1	1210	119.7
Pool 2	1206	42.5
Pool 3	1206	10.3
Pool 4	1206	30.3+
Pool 5	1206	24.5
Pool 6	1206	2.8+
Pool 7	1206	14.5

1987/1988
WATER USE REPORT/
MANAGEMENT PLAN
SHORT FORM

EXHIBIT 3

Lake Elsie NWR, Richland County
Station Name

Summer 1986 (Date not recorded)
Date of Inspection

Declaration of Filing: Aug. 30, 1937
Water Right No.
(522 acre-feet storage)
(900 acre-feet seasonal)

minor local runoff, at least two drainage
Source(s) ditches, several springs

Water Diverted: Yes No X

Means of Diversion none
Rate

*Impoundment(s): Yes No X

Water Level 2,850 acre-feet
(Elevation or Est. Storage Amount)

*Well(s):
Free Flowing none-known gpm
Pumped gpm

Type of Use:
Surface Irrigation
(Crop)
Fish & Wildlife XX
Stock
Domestic
Other high public use: swimming, water
skiing, fishing.

Overall Climactic Conditions: 1988 was dry.

Condition of Facilities: no facilities present

Proposed Water Program: None, no water management capability is present. At maximum, the lake spills north through a (damaged) culvert.

Comments: The lake is an extremely popular summer recreational area.

Fred G. Giese 2/6/89
Refuge Manager Date

*If more than one impoundment or well, please attach additional sheet.

WATER USE REPORT/
MANAGEMENT PLAN
SHORT FORMStorm Lake NWR, Sargent County
Station Name

Summer 1986 (date not recorded)

Date of Inspection

Declaration of Filing: Aug. 30, 1937

Water Right No.

(729 acre-feet storage)

(516 acre-feet seasonal)

drainage ditch (legal)

Source(s)

Water Diverted: Yes ___ No XMeans of Diversion uncontrolled ditch
Rate unknown*Impoundment(s): Yes ___ No XWater Level estimate 654 acre-feet
(Elevation or Est. Storage Amount)

*Well(s):

Free Flowing none gpm

Pumped _____ gpm

Type of Use:

Surface Irrigation _____

(Crop) _____

Fish & Wildlife X (virtually no public
Stock _____ use)

Domestic _____

Other _____

Overall Climactic Conditions: 1988 was dry.

Condition of Facilities: A diversion dam at the head of the feeder ditch serving Storm Lake washed out well before 1976, as far as I can find out. Apparently someone decided it wasn't worth repairing. I have concurred with this decision.

Proposed Water Program: No water management capacity is present. Water runs down the ditch into the Lake to an unknown degree each spring.

Comments: The Lake serves as an excellent waterfowl loafing sanctuary with good use by snow geese, canvasbacks and tundra swans. Water levels fluctuate on their own. If active management was initiated some degree of improvement might be gained by a cycle of draw-down management. It is questionable if the benefits would be worth the costs; further review is planned.

Fred H. Giese

Refuge Manager

2/6/89

Date

*If more than one impoundment or well, please attach additional sheet.